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EXAMINER

CHAU, COREY P

ART UNIT PAPER NUMBER

2644

DATE MAILED: 06/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/779,725

Applicant(s)

MCLEAN, IAN R.

Examiner

Corey P. Chau

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 January 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 and 16-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 and 16-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4, 6, 7, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5748748 to Fischer et al. (hereafter as Fischer) in view of U.S. Patent No. 5692052 to Tanaka et al. (hereafter as Tanaka).
3. Regarding Claim 1, Fischer discloses a noise attenuation system (i.e. apparatus and method for influencing oscillations in the passenger compartment of a motor vehicle and apparatus and method for detecting defects in a motor vehicle) comprising: a speaker (44), a control unit (18, 36,39) in communication with said speaker (44); and a memory unit (38) in communication with said control unit (18,36,39) storing a cancellation waveform related to a system condition (abstract; Fig. 1; column 8, lines 15-36). Fischer does not expressly disclose said control unit has a plurality of scaling factors to modify said cancellation waveform. It is well known in the art that noise increases at the throttle valve aperture increases (Fig. 10), as taught by Tanaka. Tanaka discloses a final amplification factor used to modify a cancellation waveform to compensate for the noise produce from the throttle valve aperture, wherein the final amplification factor is determine based on a table of a correction amount w at a throttle valve aperture α (Fig. 11; column 7, line 26-59). Therefore it would have been obvious

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to one having ordinary skill in the art at the time the invention was made to modify Fischer with the teaching of Tanaka to utilize the throttle valve aperture (22) of Fischer to determine a scaling factor (i.e. amplification factor) based on a table of a correction amount w at a throttle valve aperture α in order to compensate for the noise produce from the throttle valve aperture.

4. Regarding Claim 2, Fischer as modified discloses said system condition is engine data (Fig. 1; column 7, line 58 to column 8, line 28).

5. Regarding Claim 3, Fischer as modified discloses said engine data is engine speed (20)(Fig. 1; column 7, line 58 to column 8, line 28).

6. Regarding Claim 4, Fischer as modified discloses at least one sensor in communication with said control unit (Fig. 1; column 7, line 58 to column 8, line 28).

7. Regarding Claim 6, Fischer as modified discloses said sensor is a throttle position sensor (22)(Fig. 1; column 7, line 58 to column 8, line 28).

8. Regarding Claim 7, Fischer as modified discloses said sensor is an environmental sensor (Fig. 1; column 7, line 58 to column 8, line 28).

9. All elements of Claim 21 are comprehended by Claim 1. Claim 21 is rejected for the reasons stated above apropos to Claim 1.

10. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5748748 to Fischer in view of U.S. Patent No. 5692052 to Tanaka as applied to claims 1-4, 6, 7, and 21 above, and further in view of U.S. Patent No. 5677960 to Unno et al. (hereafter as Unno).

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11. Regarding Claim 5, Fischer as modified discloses an engine speed sensor (20), but only generally; no specific hardware or software is taught. Therefore it would have been obvious to one of ordinary skill in the art to seek known engine speed sensor. Unno for example discloses a tachometer for indicating the engine speed of a vehicle (Claim 10). It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ any known engine speed sensor, such as that of Unno. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Fischer as modified with the teaching of Unno to utilize a tachometer in order to obtain an engine speed.

12. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5748748 to Fischer in view of U.S. Patent No. 5692052 to Tanaka as applied to claims 1-4, 6, 7, and 21 above, and further in view of U.S. Patent No. 5850458 to Tomisawa et al. (hereafter as Tomisawa)

13. Regarding Claim 8, Fischer as modified discloses a speaker (44), but does not expressly disclose the speaker part of an air induction body. Tomisawa discloses an apparatus and method for actively reducing noise in vehicle passengers compartment comprising a speaker, wherein the speaker is disposed on or in the air intake system (i.e. air induction system) of an engine so that the air intake noise due to air intake pulsation is canceled at the noise generation source before propagation of the air intake noise into the passenger compartment (Figs 1, 4, 6, and 7; column 6, lines 11-59). Therefore it would have been obvious to one having ordinary skill in the art at the time

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the invention was made to modify Fischer as modified with the teaching of Tomisawa to have the speaker is disposed on or in the air intake system (i.e. air induction system) of an engine so that the air intake noise due to air intake pulsation is canceled at the noise generation source before propagation of the air intake noise into the passenger compartment.

14. Claims 9-11, 13, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5748748 to Fischer in view of U.S. Patent No. 5850458 to Tomisawa.

15. Regarding Claim 9, Fisher discloses an air induction system (i.e. apparatus and method for influencing oscillations in the passenger compartment of a motor vehicle and apparatus and method for detecting defects in a motor vehicle) comprising: a control unit (18,36,39) in communication with said speaker (44); a memory unit (38) in communication with said control unit storing cancellation waveform data wherein said cancellation waveform data comprises at least one cancellation waveform related with engine data (abstract; Fig. 1; column 8, lines 15-36). Fischer discloses a speaker (44), but does not expressly disclose an air induction body having a speaker. Tomisawa discloses an apparatus and method for actively reducing noise in vehicle passengers compartment comprising a speaker, wherein the speaker is disposed on or in the air intake system (i.e. an air induction body having a speaker) of an engine so that the air intake noise due to air intake pulsation is canceled at the noise generation source before propagation of the air intake noise into the passenger compartment (Figs 1, 4, 6,

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and 7; column 6, lines 11-59). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Fischer as modified with the teaching of Tomisawa to have the speaker is disposed on or in the air intake system (i.e. air induction system) of an engine so that the air intake noise due to air intake pulsation is canceled at the noise generation source before propagation of the air intake noise into the passenger compartment.

16. Regarding Claim 10, Fischer as modified discloses said engine data relates engine speed (20)(Fig. 1; column 7, line 58 to column 8, line 28).

17. Regarding Claim 11, Fischer as modified discloses at least one sensor in communication with said control unit (Fig. 1; column 7, line 58 to column 8, line 28).

18. Regarding Claim 13, Fischer as modified discloses said sensor is a throttle position sensor (22)(Fig. 1; column 7, line 58 to column 8, line 28).

19. Regarding Claim 14, Fischer as modified discloses said sensor is an environmental sensor (Fig. 1; column 7, line 58 to column 8, line 28).

20. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5748748 to Fischer in view of U.S. Patent No. 5850458 to Tomisawa as applied to claims 9-11, 13, 14, and 15 above, and further in view of U.S. Patent No. 5677960 to Unno.

21. Regarding Claim 12, Fischer as modified discloses an engine speed sensor (20), but only generally; no specific hardware or software is taught. Therefore it would have been obvious to one of ordinary skill in the art to seek known engine speed sensor.

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Unno for example discloses a tachometer for indicating the engine speed of a vehicle (Claim 10). It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ any known engine speed sensor, such as that of Unno. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Fischer as modified with the teaching of Unno to utilize a tachometer in order to obtain an engine speed.

22. Claims 16, 17, 18, 19, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5748748 to Fischer in view of U.S. Patent No. 5493616 to Iidaka et al. (hereafter as Iidaka).

23. Regarding Claim 16, Fisher discloses a method of attenuating noise (i.e. apparatus and method for influencing oscillations in the passenger compartment of a motor vehicle and apparatus and method for detecting defects in a motor vehicle) comprising the steps of: storing in memory cancellation waveform data (38); retrieving the cancellation waveform data needed to attenuate a noise based upon a sensed engine condition (Fig. 1; column 7, line 58 to column 8, line 36); transmitting the cancellation waveform data (Fig. 1); and attenuating the noise using the cancellation waveform data. Fischer does not expressly disclose delaying transmission of the cancellation waveform data a predetermined amount of time to accommodate for a time taken to retrieve the cancellation waveform data. However it would have been obvious to one having ordinary skill in the art to provide such a delay in order to compensate for

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the time taken to retrieve the cancellation waveform data as taught by lidaka (column 5, lines 33-58).

24. Regarding Claim 17, Fischer as modified discloses the noise relates to engine noise (Fig. 1; column 7, line 44 to column 8, line 36)

25. Regarding Claim 18, Fischer as modified discloses the cancellation waveform data is related with engine speed (20) and is retrieved and used to attenuate the noise (Fig. 1; column 7, line 58 to column 8, line 36).

26. Regarding Claim 19, Fischer as modified discloses the noise is attenuated about air induction system (i.e. the noise is attenuated due to the noise generated by the internal combustion engine) (Fig. 1; column 7, line 44 to column 8, line 5).

27. All elements of Claim 22 are comprehended by Claim 16. Claim 22 is rejected for the reasons stated above apropos to Claim 16.

28. Claim 20 rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5748748 to Fischer in view of U.S. Patent No. 5493616 to lidaka as applied to claims 16-19 above, and further in view of U.S. Patent No. 5692052 to Tanaka.

29. Regarding Claim 20, Fischer as modified does not expressly disclose scaling the cancellation waveform data. It is well known in the art that noise increases at the throttle valve aperture increases (Fig. 10), as taught by Tanaka. Tanaka discloses a final amplification factor used to modify a cancellation waveform to compensate for the noise produce from the throttle valve aperture, wherein the final amplification factor is determine based on a table of a correction amount w at a throttle valve aperture α (Fig.

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11; column 7, line 26-59). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Fischer with the teaching of Tanaka to utilize the throttle valve aperture (22) of Fischer to determine a scaling factor (i.e. amplification factor) based on a table of a correction amount w at a throttle valve aperture α in order to compensate for the noise produce from the throttle valve aperture.

Response to Arguments

30. Applicant's arguments filed 1/07/05 have been fully considered but they are not persuasive.

31. In response to applicant's argument on page 8, that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Fischer discloses storing a plurality of predetermined oscillation patterns; Tanaka discloses a final amplification factor, where determining the amplitude in this manner, the amount of information of needed to control intake noise is materially less. Therefore it would have been obvious to one having ordinary skill in the art to modify Fischer with the teaching of Tanaka to utilize a final amplification factor, where determining the amplitude in this manner, the amount of information of needed to control intake noise is

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materially less, instead of storing a plurality of predetermine oscillation pattern for all driving conditions at different throttle aperture value because it is well known in the art that noise increase at the throttle valve aperture increases. See Tanaka Fig. 11; column 7, line 26 to column 8, line 31.

32. In response to applicant's argument that "by locating the speaker of Fisher in the air induction system as the Examiner suggests, the above benefit would be lost" and "by placing the speaker in the air induction system, the error microphone of Fischer would be unable to provide sufficient feedback of noise reduction in the passenger compartment since such noise reduction would be occurring in the air induction system", the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

33. With respect to Applicant's argument on page 9, stating that "there is no mention of this time period or even a cancellation waveform in Iidaka", has been noted. However the Examiner respectfully disagrees. Iidaka discloses compensation coefficients are for compensating a delay of time, a deviation of characteristics and a deviation of phase caused during which, a signal outputted from the adaptive filter is generated as a canceling sound from the speaker through the canceling signal processing circuit, which reads on "delaying transmission of the cancellation waveform data a predetermined

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amount of time to accommodate for a time taken to retrieve the cancellation waveform data". See Fig. 1; column 5, lines 33-58.

Conclusion

34. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

35. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Corey P. Chau whose telephone number is (571)272-7514. The examiner can normally be reached on Monday - Friday 9:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tran Sinh can be reached on (571)272-7564. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

May 31, 2005


XU MEI
PRIMARY EXAMINER